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Inaugural Lecture at Cambridge

THE inaugural lecture of the Chair of Veterinary Clinical Studies was recently delivered by Professor L. P. Pugh, M.A., B.SC., F.R.C.V.S., at Cambridge and is published this week by the University Press.

In answering the comment that the establishment of a Department of Veterinary Clinical Studies is an expensive experiment, Professor Pugh drew attention to the view once expressed by the Provost of Kings: "It may be assumed, I suppose, that no university in this country would to-day create a new Chair which it did not consider met a need, however limited." He went on to say that a new Chair is only established when the intellectual climate is such that the need for it becomes apparent, even if those who appreciate that need may be few, and when the subject is ready to stand as a discipline in its own right as part of a liberal rather than a strictly vocational education.

He first discussed the trend of thought at Cambridge which paved the way for the establishment of a Veterinary School. Paying tribute to Sir Clifford Allbutt, Regius Professor of Physic for 33 years until his death in 1925, he said, "Allbutt was an able clinician, but clinical acumen alone could never have given him his unique position of importance in the University. By his wide outlook he was able to suggest a new conception of what medicine might be. He advocated constantly a rapprochement of the studies relating to the diseases of man and animal, pleading for the careful investigation of the diseases of animals to throw light on those of man."

That the establishment of the Chair of Veterinary Clinical Studies in the Faculty of Medicine may be traced back to the direct influence of Allbutt is something that Allbutt, in his modesty, would not have claimed, although before he died, he had the gratification of seeing established at Cambridge a professorship of Animal Pathology.

Professor Pugh then went on by discussing how the significance of the applied side of medicine has biased observers as to what was the full meaning of clinical study. "The importance of the practical aspects of clinical medicine, whether in man or animals, is so obvious that it has tended until recently to overshadow and prejudice the appreciation of any other approach to the study of the clinical aspects of disease. But this is not to suggest that scholarship is synonymous with impracticality. If the universities are to remain 'a permanent embodiment of the ideal of wisdom as opposed to technical furniture' the new subjects must be capable

of adding to our understanding. That a branch of learning may have importance or not in its applied aspects can never be a point at issue. Every horse is not a Trojan one. The point is not new. John Wallis, the great predecessor of Newton, migrated from Cambridge to Oxford because he found 'mathematics were scarce looked upon as academical studies.'"

In comparing the practical aspects of human and veterinary clinical medicine in its preventive and curative roles it was pointed out that the shifting emphasis in the relative economic importance of various animal species away from the horse and towards the farm animal has given, in the application of preventive measures, a bias towards agriculture. On the other hand in curative medicine there is a similarity in method to be applied in human and veterinary medicine. "The art in this field has been more highly developed in man than in other animals, though in essentials the difference lies 'simply in the dignity and nobility of the subject'—an anthropocentric rather than a hippocentric point of view."

Professor Pugh continued by stressing that the practical side of veterinary medicine, depending as it does more on economics than on sentiment, has become and will become even more so in the future, preventive medicine—the maintenance of health rather than the restoration of health. "The same ideal applies in the case of man, but the time has not yet come when therapy is made subordinate to prevention. The very complexity of the problem in man—the diffusion over many fields and the impinging social aspects—underlines the need for the study of these problems in animals. Here the ecological factors are simpler, more easily defined and controlled, and more open to trial by direct experiment than by the slower and less certain path of observation."

After discussing briefly the present position concerning diseases ordinarily transmissible between man and animals, Professor Pugh said, "The failure on the part of the veterinarian to appreciate clearly this division of allegiance between human medicine on the one hand and agriculture on the other has hindered his intellectual rapprochement with either. Consequently, it has appeared that the links between human and veterinary medicine are too tenuous to be more than superficial, that the relationship is tangential and no closer than that which exists between any other two cognate sciences. Collaboration has been merely the catch-phrase of the scientific after-dinner speaker.

"If these two branches of medicine comprise separate groups of phenomena needing different approaches by virtue of the different animals studied, they must be considered as separate disciplines. The similarities, then, are fortuitous and the analogies superficial. In 1881 T. H. Huxley wrote: 'It is a peculiarity of the physical sciences that they are independent in proportion as they are imperfect and it is only as they advance that the bonds which really unite them all become apparent.' He who would advance must go beneath these superficial analogies and similarities to underlying affinities which, indeed, in the clinical field are only slowly becoming apparent."

Professor Pugh showed how in the growth and expansion of most of the branches of Natural Science there had been a close understanding between the academic and the applied fields. "The evolution of a science within the universities, complementary to the practising clinician, has been slow, partly because the field of clinical study in relation to the ancillary sciences has not yet developed a widely acceptable definition, and partly because the vocational aspect has hitherto nearly always overshadowed all else in a clinical teaching department."

The question arises as to whether it is possible that the vocational needs of the veterinarian can be shown in a liberal context. "To answer this it is necessary to see what place the clinical teacher may have in the study of medicine within the university. To many it would appear that the clinician should merely continue to apply existing knowledge to known situations, to leave the undefined and be content, as Lord Adrian once said, with 'so much speculation and so little certainty.'"

Professor Pugh, after drawing attention to disease as a dynamic process, said: "The place of the clinical scientist engaged in trying to understand disease must be *a priori* with the living animal. His interests lie in the processes of disease—their mechanisms, their integration, and their interpretation, and the study of them must be the declared aim of clinical science. In this way the clinical scientist may play as important a part in the study of disease as the physiologist plays in the comparable study of health."

He went on to elaborate the part that the clinician can play within the University to advance general understanding, but pointed out that the mere physical translation of a clinical department into a university does not solve the problem—"half-science is less useful . . . than whole craftsmanship."

"No one method can have a monopoly of truth. The two processes, the exact observation and measurement of disease and the experimental study of its processes, must intellectually not be too rigidly divorced. The observational and the experimental approach must be applied together, especially in man, where observation must largely wait upon nature's experiment. Together they can form the basis by which the underlying processes of disease in the living patient can be rationally interpreted. In the study of clinical illness of animals there are some notable advantages. Failure to bring about a cure is measured in terms of economics rather than sentiment, and risks are calculated accordingly. The death of an animal is not usually accompanied by the element of social tragedy which inhibits boldness in human therapy. The mind of the animal is less compelling as a complicating factor to be reckoned with. Hence the practical advantages are: first, that in the reproducible diseases even observation can best be done under experimental conditions; and, secondly, even in naturally occurring disease it is usually possible to conduct an experimental investigation to an extent often denied in man."

Professor Pugh showed how the study of disease as a dynamic process could have an equally important role in reconciling the pre-clinical subjects to medicine and surgery by applying the principles gained earlier in a new role, a role which emphasises the common ground existing in the study of disease processes in man and animals.

"The common ground is one which sets out to interpret disease in terms of function and functional co-ordination; here one is comparing the deviations from typical life as disease or as anomalous cases, with the range which constitutes normality.

"In mammals each group is distinguished by morphological details and environmental factors. These differences equally involve a predisposition to some illnesses and immunity from others. Yet in the past these differences have but rarely had a speculative value. . . ."

In pointing out that a comparative approach to medicine is not a new approach Professor Pugh commented: "It may seem strange to draw attention to a method widely pursued in many other branches of learning and so one may well ask why this comparative method has been less extensively followed in medicine. It is probable that the method has not been much used by the veterinarian for the same reason that it has not been widely applied by his conterpart in human medicine. Each by tradition was primarily interested in one animal only—in the one case the horse, and in the other case man." He pointed out that with the widening of the veterinary surgeon's clinical interests, particularly since the First World War, there is now a broad, but yet not well-defined appreciation of the species differences and similarities from the clinical side. In discussing this Professor Pugh said: "In veterinary medicine the widespread occurrence of what are euphemistically called metabolic diseases, and their patent associations with many ecological factors, especially nutrition, have focussed attention on a physiological and chemical-physiological approach. Such an approach aims not to exclude those diseases which have a better understood aetiology, but to embrace them in understanding how the animal maintains the constancy of its internal environment, what processes are involved when this compensation is inadequate, and what relationship this compensation has to the external manifestations of disease and their interpretation.

"The physiologist has gone far in the attempt to devise an acceptable formula for a general explanation of the normal state, and it is regrettable that the liaison between the clinician and the physiologist has not been closer. The aim of both is similar—the understanding of the functional architecture of the healthy body and the functional architecture of the sick body."

Professor Pugh regretted that the present situation is still, broadly speaking, that interpretation of the physiological data relating to the farm animals is based on the assumption that what has been found in, say, the cat, applies to the pig, since the findings in the conventional laboratory animal are not often checked for their applicability to the farm animal. "To this extent therefore the veterinarian is at a disadvantage when compared with the human clinician, who can benefit from those workers who, in more difficult circumstances, have made a more successful attempt to equate the findings in laboratory animals with those in man."

On the other hand the advantage is with the veterinarian when it comes to experimental medicine. ". . . In human experimental medicine much of the work must be carried out in animals, and the findings proved in one species translated to another. In veterinary research it is usually possible to study one's problems directly in the animal to which the problem refers, with the added advantage of being conversant already with that species' environment, susceptibilities and immunities. The advantage therefore of the experimental approach are all available to the student of animal disease."

Professor Pugh went on to show that the opportunity is now presenting itself at Cambridge for accomplishing what has been a goal for so many years, the goal of studying disease as it embraces all species.

He then said: "Basically there are two problems. Is there a place in the intellectual structure of this university for a clinical department, and is there a place for a veterinary school? I hope that the opinion advanced may at least 'provoke those it cannot convert.'

"I have tried to express the aim that veterinary medicine must develop its own science of experimental medicine; I have suggested an approach to this problem in the hope that not only will it enlarge our understanding of disease, but will make for a closer relationship with the other scientfic disciplines and create a logical sequence of ideas in teaching. In pursuing this object, the veterinarian's interest in different animals suggests that it is ultimately by a comparative approach that a clinical department can best play its part in the furtherance of knowledge and that, by this approach, the fundamental similarities and dissimilarities between species in which I include man, may be profitably exploited.

"But there is one point which must never be lost sight of—we are dealing with living animals, and nothing would be more wrong or distasteful than that our philosophy should cause us to look upon disease solely as a collection of interesting phenomena. Without humanity we will be wasting our time as much as without science. But the basis of this humanitarianism must be knowledge, knowledge gained with animals, and scientifically interpreted."

Professor Pugh ended his lecture by expressing his appreciation of the support he had received. "It is very gratifying that my fate has not had to be worked out single-handed. Good will and help from many parts of the university in the task of establishing a new Department have encouraged me in this work and, moreover, have encouraged me in the belief that the doubts of the wisdom of establishing a veterinary school here may be dispelled, and that the promise and hopes of those who have advocated the step will be fulfilled."

Studies on Anaemia in Pigs

1.—The Provision of Iron by Intramuscular Injection

BY

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IT is now generally recognised that pigs reared indoors will develop microcytic anaemia early in life, arising from a deficiency of iron in sow's milk. The condition is characterised by a fall in the haemoglobin content of the blood to subnormal levels and is known to have an adverse effect on the development of the animal.

This type of anaemia can be prevented by administration of iron to the young pig. This is most commonly done by dosing the pigs orally at various intervals with a preparation containing readily available iron. Although inherently easy, such dosing can be a rather laborious task and much effort has been directed to finding some more convenient alternative. Recently, it has been suggested that the iron might be satisfactorily supplied to the pig by intramuscular injection. As such a method might, if effective, have practical advantages over oral dosing, it was decided to carry out a test of two proprietary iron preparations claimed to be effective by the intramuscular route.

Experimental

Treatments

The following four treatments were included :—

1. *Negative control.*—No supplementary iron given.

2. *Positive control.*—Orally dosed with iron pyrophosphate solution daily for seven days commencing on the seventh day of life. Each dose supplied 30 mg. of Fe (see Foot & Thompson, 1947).

3. *Intramuscular injection of Preparation A* (*Suspension of ferric phosphate—50 mg. Fe per c.c.*).—Single injection of 2 c.c. given on the seventh day of life.

4. *Intramuscular injection of Preparation B* (*Iron-dextran complex—50 mg. Fe per c.c.*).—Single injection of 2 c.c. given on the seventh day of life.

The injections were made into the muscle of the hind leg, strict aseptic precautions being observed. After withdrawal of the needle, the site of the injection was thoroughly massaged to assist in dispersal of the material.

The criterion used to determine the effectiveness of the various iron preparations was their ability to restore the blood haemoglobin content of the pigs to normal levels following the rapid fall normally occurring after birth.

Pigs

The six litters used for the experiment were born indoors in a Danish type farrowing house and were reared inside with their dams for the entire eight weeks' suckling period. An experimental unit consisted of four littermate pigs of approximately equal weights when seven days old, and the four treatments were allocated at random within each unit. A total of 10 units, comprising 40 pigs, was selected from the six litters.

From the 21st day of life the pigs had unrestricted access to a good quality creep meal and to water.

Haemoglobin Determinations

The haemoglobin content of the blood of each experimental pig was determined within 12 hours of birth, on the 7th, 8th, 10th and 14th day of life, and thereafter weekly up to eight weeks of age.

The oxy-haemoglobin method was used. An 0·05 ml. sample of blood was taken from an ear vein into 10 ml. of a 0·04 per cent. solution of NH_4OH. This was allowed to stand for at least half an hour and read in a Unicam defraction grating a spectrophotometer which had been calibrated with a standard sample of human blood provided by the Medical Research Council.

Results and Discussion

Two pigs which received no supplementary iron died during the experiment, one during the second and one during the third week of life. Although the blood haemoglobin content of these two pigs was falling at the time of death, it is not known whether this was the primary cause of death.

The data relating to the mean blood haemoglobin levels of the pigs are given in the Table, and are shown graphically in the Figure. They show quite clearly that the oral dosing of the pigs with iron pyrophosphate, or the intramuscular injection of Preparation B were equally effective in arresting the fall in the haemoglobin content of the blood after birth and raising it to a normal level by the 14th day of life. On the other hand the blood haemoglobin content of the pigs that had been given the intramuscular injection of Preparation A continued to decline after treatment, so that on the 21st day of life their blood picture did not differ significantly from that of the negative control pigs that received no supplementary iron.

It may be concluded, therefore, that while prophylactic treatment of baby pigs against iron-deficiency anaemia may be successfully effected by intramuscular injection, the form in which the iron is given is of vital importance since some forms are not absorbed into the body from the site of injection.

It will be observed from the Table and Figure that following the recovery in blood haemoglobin content by the 21st day of life in the pigs treated with iron pyrophosphate or Preparation B, a second marked fall occurred during the following two weeks, followed by a slow recovery to weaning at eight weeks.

TABLE
MEAN HAEMOGLOBIN CONTENT OF THE BLOOD (g./100 ml.)

Treatment	Number of pigs	Days After Birth: Birth	7	8	10	14	21	28	35	42	49	56
Control	10	11·83	8·20	8·05	7·64	6·69*	5·73†	5·86†	5·71†	6·31†	7·42†	8·52†
Iron pyrophosphate (orally dosed)	10	10·72	7·97	7·64	8·54	10·92	11·16	9·77	8·28	8·62	8·86	8·90
Preparation A (intramuscularly injected)	10	11·78	8·40	8·26	7·40	7·26	6·32	6·31	5·56	6·18	7·52	7·84
Preparation B (intramuscularly injected)	10	10·99	7·68	7·90	8·88	10·54	10·78	9·66	7·94	8·40	9·22	9·08

*9 pigs, †8 pigs } see text

It has been generally considered that young pigs will normally start eating a palatable creep meal in quantities sufficient to provide for their iron requirements during the third week of life. Data which we have collected (Barber, Braude & Mitchell, 1953, and unpublished data) indicate that under our conditions pigs reared indoors do not, in fact, consume appreciable amounts of creep meal until at least the fifth week of life.

It appears likely that this delay in starting to consume the creep meal may be responsible for the secondary fall in the blood haemoglobin. The problem is being investigated and a further report will appear shortly.

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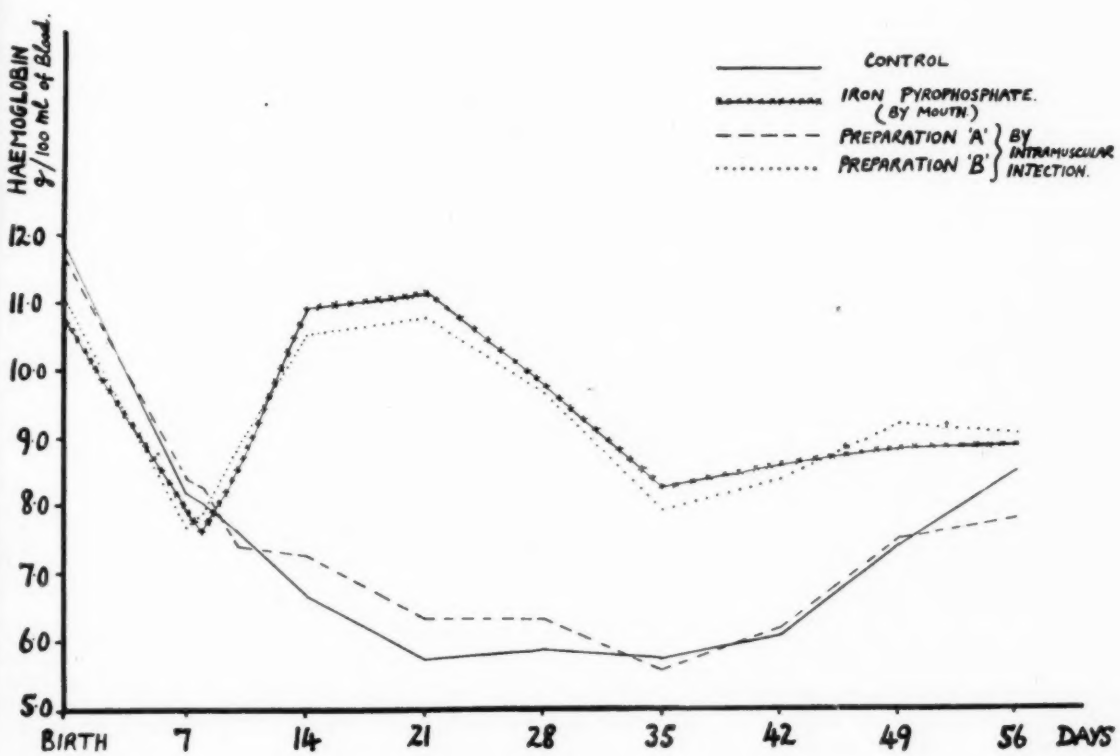

The Treatment of Piglet Anaemia

BY

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NUTRITIONAL anaemia due to a dietary shortage of iron in housed piglets was first recognised by McGowan & Crichton in 1923 and since then efforts at prophylaxis have been concentrated on overcoming the difficulties occasioned by the necessity to repeat iron treatment at fairly frequent intervals.

The simplest and safest iron preparation for general use is probably reduced iron. Schofield & Jones (1939) first recommended its use as a prophylactic at a dosage of 350 mg. Subsequent observations have confirmed its value (Foot & Thompson, 1947) and the dose rate generally used is from 350 to 1,000 mg. per pig.

In a series of experiments in connection with the development of a reduced iron paste, which it is hoped to publish in detail later, it was found that 500 mg. of reduced iron in the first week and again in the second week of life was enough to prevent the development of anaemia at three weeks by which time the piglets should begin to take a food supplement. It was also found that only some 5 per cent. of the oral dose of reduced iron is used for haemoglobin synthesis, hence the need for the relatively large dose of 500 mg. and, as utilisation appears all to be effected in about a week, a repetition of treatment is necessary if adequate iron is not available from other sources.

In the curative treatment of established anaemia a rapid response is required, and this can be obtained by the daily administration of reduced iron or other suitable iron preparation, but a sufficient intake of iron cannot be achieved by a single oral dose since preparations which are well tolerated, *e.g.*, reduced iron, have low utilisation rates and preparations with high utilisation rates tend to be toxic or irritant, *e.g.*, ferrous sulphate.

The administration of iron by injection offers the possibility of laying down a relatively large deposit of iron which can be used for haemoglobin formation as required. The intravenous administration of saccharated oxide of iron as used in man is precluded by the small size of accessible veins in the baby piglet, and a preparation for intramuscular injection is therefore indicated.

During the course of an investigation of piglet anaemia three iron preparations for intramuscular injection were available for trial. One of these was excluded in the initial stages because of the large dose (5 c.c.) and because it appeared liable to cause abscess formation at the site of injection. The two remaining preparations produced no serious local reaction, and contained sufficient iron (50 mg. per c.c.) to produce a good response with a fairly small injection if the percentage utilisation proved to be high.

Methods

Anaemia was produced by housing the sows and litters in concrete boxes without access to soil or other iron-rich material.

Blood samples were obtained by puncture of an ear vein and haemoglobin was estimated as oxyhaemoglobin in a M.R.C. photometer (King *et al.*, 1948) or as alkaline haematin (Gibson & Harrison, 1945). The pigs were weighed at the time of each sampling. Iron utilisation was estimated from the pre- and post-treatment weights and haemoglobin values on the assumption that the blood volume during the first three weeks of life represented about 7.5 per cent. of the bodyweight (Hansard, *et al.*, 1951) and did not vary greatly during this period.

The amount of iron acquired by the piglets other than that administered was estimated from the corresponding changes in weight and haemoglobin level in untreated littermates. Under our housing conditions the estimated daily increase in haemoglobin iron in untreated piglets not receiving solid food, due to the acquisition of iron from all sources—milk, bedding and the walls and floors of the box—was 1.7 mg. per day (0.8 to 3.7 mg. per day) in 39 piglets in 11 litters. When littermates were not available as controls, or if they lost weight and could not therefore be used to estimate extraneous iron uptake, this mean value was taken as the control level since the pig houses were all of the same size and construction. It was often found that when the haemoglobin level fell very low, iron appeared to be lost from the circulation. In such cases the control piglets could not be used to estimate iron uptake from the pig house and 1.7 mg. iron per day was then taken as the control uptake.

The two preparations for injection were:—

1. A suspension of ferric phosphate in normal saline containing 50 mg. iron per c.c. (injection A).
2. An iron-dextran complex containing 50 mg. iron per c.c. (injection B)*.

Both preparations were used at a dosage of 2 c.c. (100 mg. iron) per piglet injected into the thigh muscles. There was no marked local pain or reaction.

Results

These are shown in Table I and Figs. Ia, Ib, IIa and IIb.

If the iron acquired by the control untreated piglets in our series is taken as the basic intake from all sources then injection A, in spite of containing 100 mg. of iron, provided virtually no iron for haemoglobin synthesis within a week of administration. A

* Iron-dextran complex " Imferon."

(Continued on page 351)

TABLE I
TOTAL HAEMOGLOBIN IRON INCREASE IN PIGLETS TREATED WITH VARIOUS IRON PREPARATIONS

Litter	Treatment	Age at treatment	No. of Hb. pigs	Iron increase after treatment	Period	Hb. g per cent	
						Pre-treatment	Post-treatment
88/1	Reduced iron 500 mg.	26 days	4	33 mg.	7 days	6·2	6·9
	Injection A	26 „	4	13 „	7 „	6·4	6·0
80/1	Reduced iron	33 days	3	36 „	7 „	4·1	5·4
	Injection A		3	8 „	7 „	4·0	4·2
80/2	Reduced iron	15 days	4	40·5 g.	13 „	7·3	6·2
	Injection A	15 „	2	33·0 „	13 „	5·3	4·2
	Untreated	15 „	2	18·0 „	13 „	5·0	4·7
C/C	Reduced iron	3 „	5	40·0 „	7 „	7·5	7·8
	Injection A	3 „	4	12·0	7 „	7·9	5·4
69/1	Injection A	13 days	3	7·0	7 „	4·8	4·5
	Untreated	13 „	3	5·0	7 „	5·0	4·8
30/1	Injection A + 10 mg. Cu per os	31 days	2	6·0	7 „	4·5	4·2
	Reduced iron 500 mg.	31 „	2	25	7 „	3·9	4·5
PC/1	Injection B	30 days	4	98·0	7 „	4·7	8·9
	Untreated	30 „	2	6·0	7 „	4·6	4·6
80/3	Injection B	11 days	5	70·0	7 „	5·8	9·0
	Untreated	11 „	5	−15·0	7 „	5·6	2·9
88/3	Injection B	19 days	6	128·0	12 „	3·7	8·2
80/2	4 × 500 mg. reduced iron at 2 days intervals	8 days	2	70·0	7 „	6·6	9·8

single oral dose of 500 mg. of reduced iron provided approximately 24 mg. of iron—a utilisation of 5 per cent. which is greater than that found by Witts (1936) for man (0.5 to 2 per cent.), due perhaps to the relatively massive dose in relation to the small size of the piglet.

Injection B on the other hand was well utilised within a remarkably short time of administration (Table I). In litter PC/1 treated at 30 days when the average haemoglobin was down to 4.7 g. per cent., 98 mg. haemoglobin iron were acquired in seven days after the injection, whereas the untreated controls had acquired only 6 mg. iron. In litter 80/3 the treated pigs gained 70 mg. of haemoglobin iron in seven days, whereas in the control piglets, in one of which the haemoglobin level fell as low as 1.4 g. per cent., there was an apparent loss of haemoglobin iron from the circulation.

In litter 88/3 all six piglets were treated and showed a total increment of haemoglobin iron of 128 mg. in the next 12 days.

The conditions of the trial with injection B in which some of the control piglets either lost weight or became so anaemic that haemoglobin appeared to be lost from the circulation, prevent a precise estimate of the percentage utilisation of the injected iron. If, however, the increment of 1.7 mg. haemoglobin iron per day found for a series of litters reared in the same pig houses is accepted as a basic intake then the results give a mean percentage utilisation of approximately 85 per cent. over a period of nine days after treatment.

Discussion

The treatment of anaemia by the injection of iron has considerable appeal because of the apparent certainty that injected material will be fully utilised. This is clearly not necessarily the case, and in repeated trials with injection A only an insignificant portion of the insoluble ferric phosphate suspension was used for the production of haemoglobin. Mobilisation of this iron did not seem to be influenced by the oral administration of copper (litter 30/1). The fate of the injected material was not determined, but it did not appear as haemoglobin iron over a period of several weeks after administration.

The iron in injection B on the other hand was readily available, produced a rapid response and the greater part of the injected iron was incorporated in haemoglobin within a week of injection.

In the treatment of piglet anaemia a rapid response is essential since, even when anaemia is quite well marked, growth continues at almost the normal rate for some time, so that moderate anaemia can become profound within a week. With the high utilisation rate for injection B one injection should be sufficient in the treatment of moderate anaemia particularly if supplementary feeding is provided; however, anaemic piglets often show little interest in supplementary feeding and a further treatment after a week to 10 days may therefore be desirable. Ordinary creep feeds frequently do not contain sufficient iron to provide the very high requirements of the growing piglet and in our experimental groups recovery was often slow when using common creep feed mixtures not supplemented with iron.

One of these mixtures was wheat middlings 50 parts, flaked maize 25, barley meal 15, white fish meal 10. On spectrophotometric analysis this ration had a total iron content of 80 p.p.m. (± 20 per cent.) or 36 mg. per pound. Even when consumption was

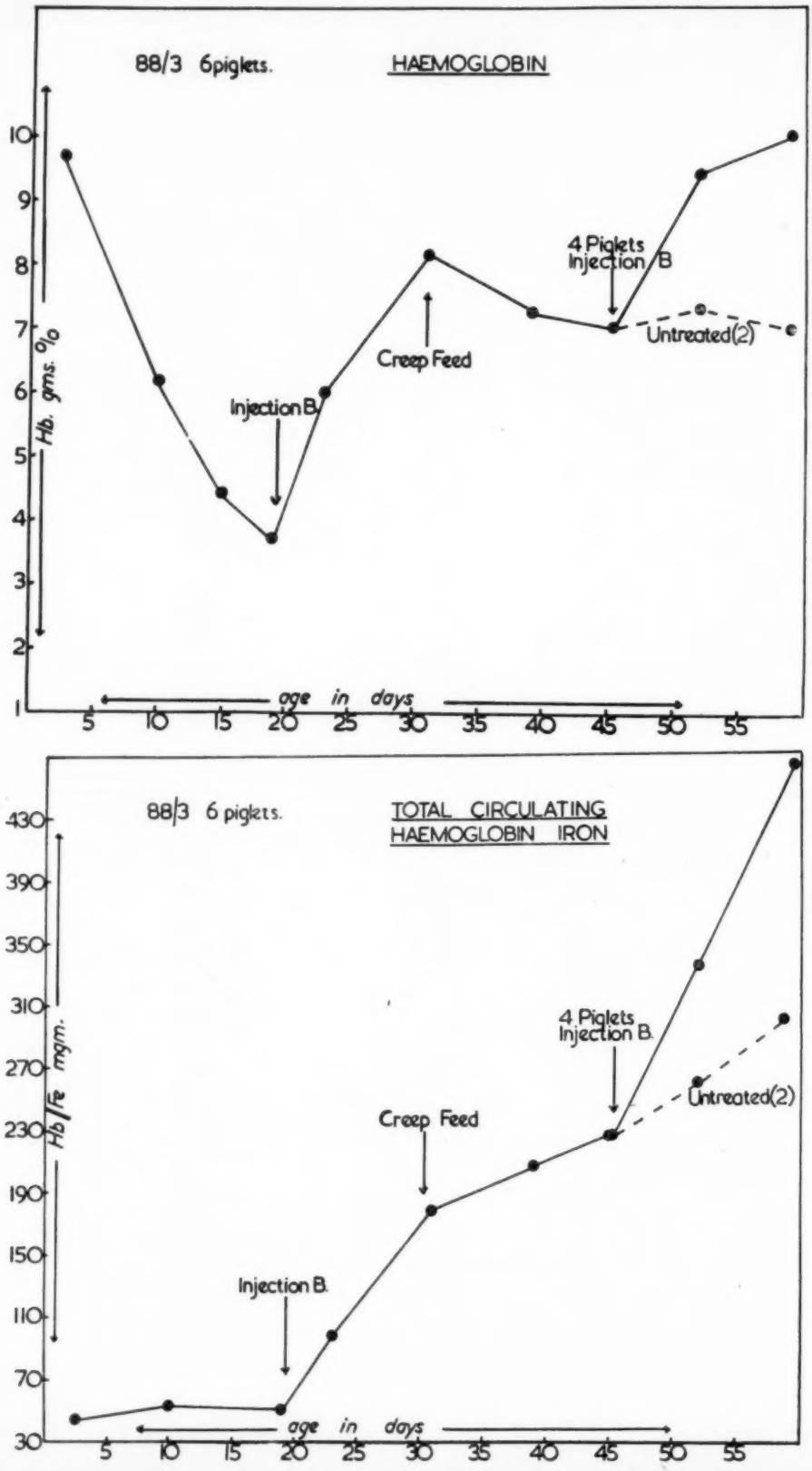

FIG. 1—Litter 88/3. Six piglets given 2 c.c. injection B (100 mg. iron) at 19 days and repeated in four piglets at 45 days.

(a) The usual early postnatal fall in haemoglobin percentage followed by a sharp rise after treatment at 19 days, then a decline even though creep feed was being taken readily, and a further rise in the four piglets retreated at 45 days while the untreated piglets remained unchanged.

(b) The total circulating haemoglobin iron was slightly greater at 19 days than at three days although the haemoglobin *percentage* fell due to a growth increase of approximately 300 per cent. between 3 and 19 days.

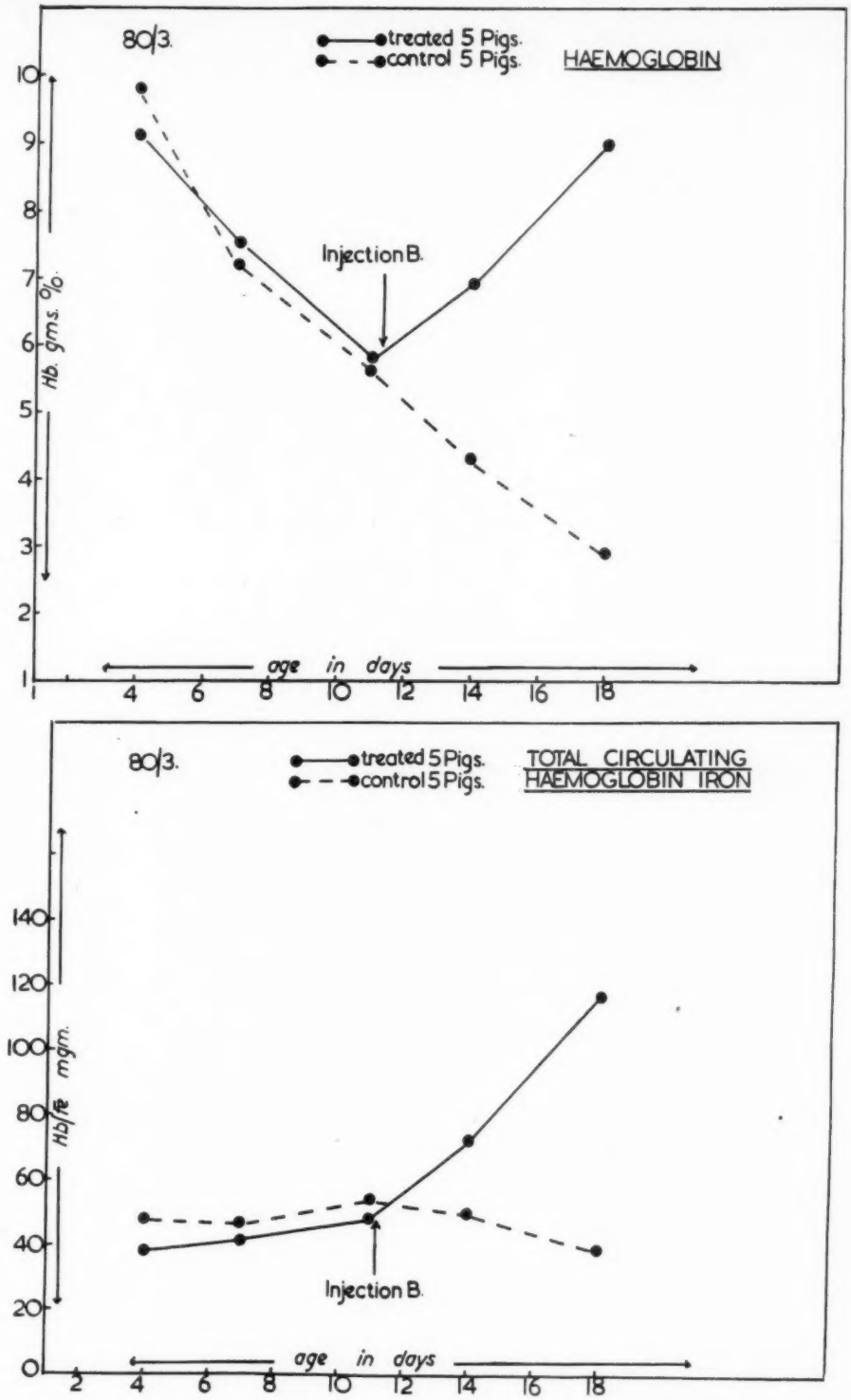

FIG. 2.—Litter 80/3. Five piglets given 2 c.c. injection B (100 mg. iron) at 11 days and five littermates left untreated.

(a) Haemoglobin percentage. (b) Total circulating haemoglobin iron.

up to one pound per pig per day at eight weeks old the recovery from anaemia on this ration was much too slow and the haemoglobin took nearly 30 days to rise from 4.0 g. per cent. to 6.7 g. per cent. at seven weeks. An alternative ration contained barley meal 30, wheatings superfine 50, dried skim milk 12, white fish meal 5, steamed bone flour 2½, common salt ½. The total iron content of this ration was 124 p.p.m. (± 20 per cent.) (54 mg. per pound). This ration was taken readily at 19 days but the average total haemoglobin iron increase of the piglet in the next 21 days was only 81 mg., during which time the average haemoglobin rose by only 1 g. per cent. from 5.6 to 6.6 g. per cent. A commercial sow and weaner meal fed to litter 88/3 (Fig. 1) contained 110 p.p.m. iron.

An iron-rich supplement should therefore be provided after the initial massive iron treatment to obviate the need for repeated oral or intramuscular iron administration.

Summary

Two iron preparations for the treatment of piglet anaemia by intramuscular injection were tested and the iron utilisation rate was measured and compared with that of oral reduced iron.

One preparation provided little or no iron for haemoglobin formation, the other preparation was highly active and most of it had been used for haemoglobin formation a week after administration.

Acknowledgments.—I am indebted to Miss M. Butler for technical assistance, to Mr. L. Brealey and Mr. H. E. Brookes for the estimations of the iron content of the feeding stuffs, and to Mr. W. J. Curtis of Benger Laboratories Ltd. for supplies of "Imferon." I am grateful to Mr. D. L. Hughes, F.R.C.V.S., for help during the course of the trials and to the Directors of Boots Pure Drug Co. Ltd. for permission to publish.

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INTERNATIONAL CONGRESS OF COMPARATIVE PATHOLOGY

Under the presidency of Professor Fluckiger, director of the Federal Veterinary Office, the Seventh International Congress of Comparative Pathology will be held in Lausanne from May 26th to 31st. A number of papers will be read (details are not to hand) and discussions will follow. There will be a full social programme in addition to the sessions.

Full details may be obtained from the General Secretariat, 19, Rue César Roux, Lausanne.

Some Experiences of Thiopentone Sodium as an Anaesthetic in the Pig

BY

R. H. CLOVER

Fareham

MY attention was first drawn to the potentialities of thiopentone sodium as a general anaesthetic in the pig in June, 1952.

1. I was confronted by a case of complete umbilical rupture in a Middle White gilt weighing about 100 lb. Intestine was protruding through a skin wound about 4 inches long and the pig was being restrained by force, being held down in a filthy sty. I had available 1 gramme of thiopentone sodium with the 20 c.c. of sterile distilled water necessary to make up the appropriate 5 per cent. solution. It was considered that, having in mind the dosage of ½ gr. per lb. bodyweight as recommended by Wright's Veterinary Anaesthesia, 1952, there should be available just sufficient thiopentone to obtain anaesthesia in this subject. For ease of handling the solution was prepared in two 10-c.c. syringes.

Using the ear vein 10 c.c. of this solution was injected rapidly; within 30 seconds the pig relaxed in a state of narcosis. The second syringe was then attached to the needle which had been left in the vein and injection was continued slowly. Full surgical anaesthesia was obtained in four minutes, 17 c.c. of the solution having been injected.

The rupture was repaired, and as the final suture was being inserted, 20 minutes from the time of induction of anaesthesia, the pig stretched. She was then returned to a clean sty and was on her feet one and a quarter hours after the commencement of surgery.

Recovery was uneventful and sutures were removed on the 10th day.

2. *August*, 1953.—On this occasion the subject was a nine-weeks-old gilt weighing 25 to 30 lb., having a prolapse of the colon and rectum.

Again using the ear vein, 2½ c.c. of the 5 per cent. solution of thiopentone sodium was introduced rapidly, full surgical anaesthesia being present in two minutes, 5 c.c. of the solution having been injected. Surgical repair comprised ventral fixation of the colonic mesentery to the abdominal wall, the prolapse having been reduced both via the rectum and by traction through the abdominal incision. The pig was on her feet within one hour and recovery was again uneventful.

Three further operations for this condition have subsequently been carried out using this anaesthetic agent. Two were equally satisfactory using the dosage as outlined above, but the third case, in October, 1954—again a young gilt weighing 25 to 30 lb.—seemed to show an undue tolerance to thiopentone as only light anaesthesia was obtained after injecting 10 c.c. of the solution; in fact, despite double the estimated dose, there was barely time to complete the operation before the pig attempted to rise.

A final experience is worth recording as providing a possible means of restraining fractious sows when farrowing. In September, 1953, a Large White sow

(Continued at foot of col. 1, page 355)

Paralysis of the Fifth Cranial Nerve in a Cow

BY

P. J. N. PINSENT

University of Liverpool Veterinary Field Station

Subject

An aged dairy shorthorn cow.

History

This animal had calved normally one month previous to admittance to the Field Station. Fourteen days after parturition she was noticed to be standing with her head rotated slightly to the left. She was dull, her rumen appeared to be abnormally empty, and faeces were passed infrequently and in small quantities. She appeared to be hungry, and ate concentrates and mashes slowly, but found difficulty in eating hay. She had lost condition and her milk yield had dropped. Body temperature was slightly raised. The owner's veterinary surgeon had given sulphadimidine and laxatives with apparent slight improvement which, however, was only temporary.

Examination

The cow was thin and very lethargic. Faeces were harder and darker than normal. Ruminal movements were regular but weak, and the flank appeared very hollow. She was seen to regurgitate as if ruminating, but did not chew her cud. Milk yield fell steadily and on the fourth day in the Field Station she gave only 10 pounds. Temperature and pulse on admittance were 101° F. and 50 respectively, but both fell daily, and on the fourth day were 98° F. and 44 respectively.

The animal's head presented several abnormal features. The pupil of the left eye was widely dilated and did not respond to variations in light intensity. Nevertheless some degree of vision remained in this eye, as was demonstrated by head movement when a finger was directed towards it. The right eye was normal.

The lower jaw hung open about 1 inch, and whereas the cow could open her mouth, she could never completely close it, although it could be closed quite easily when a hand was placed beneath the lower jaw. There was tongue movement, but its control seemed to be incomplete, as it protruded slightly, and a little slackly, from the mouth. The cow drank normally, but slowly, and appeared to swallow her food unchewed. She had great difficulty in dealing with hay, and allowed portions of it to fall from her mouth. From time to time it was noticed that masses of sodden food material had accumulated in the pharynx and back of the mouth, necessitating manual removal. It appeared, at first, that this was partially masticated food which she was unable to swallow, but careful observation showed that it was, in fact, regurgitated rumen content which accumulated during attempts at rumination. The cud passed normally into the pharynx, but the cow was unable to bring it forward into the mouth and chew it.

Close examination of the mouth and pharynx revealed no abnormalities beyond the presence of numerous white nodules on the posterior wall of the pharynx. These, although a source of confusion at the time, were shown later to consist of extensively keratinised papillomata, and were apparently quite coincidental.

Whilst restraining the animal to examine the pharynx suspicion arose that the sensory function of the skin of the left side of the face was abnormal. Pricking with a pin produced no response over the greater part of the face, head and lower jaw on the left side of the mid-line, and this lack of sensitivity included both upper and lower eyelids, and the skin around the left horn. The right side of the head showed normal responses.

Diagnosis

A full consideration of the symptoms at this point led to the conclusion that the condition was due to a lesion affecting the trigeminal (fifth cranial) nerve. According to Sisson (1948) this nerve originates from the lateral aspect of the pons by a large sensory root and a smaller motor root. The sensory root runs to the crescent-shaped semilunar ganglion which lies just above the foramen lacerum basis cranii, and is partly embedded in the fibrous tissue which occupies this foramen.

The ophthalmic and maxillary branches of the nerve, both purely sensory, run outwards from this ganglion, as does a third sensory branch which joins the motor root to form the mixed mandibular division of the fifth nerve.

The ophthalmic division, through its various branches, supplies sensory function to the lachrymal

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weighing about 300 lb. was attended at 3 a.m.; she had been straining since 6 p.m. the previous evening without result. The sow resented examination *per vaginam* and some means of sedation was required; 2 c.c. of the usual solution of thiopentone sodium were injected intravenously and the sow settled peacefully and did not resent subsequent manipulation. Two piglets, simultaneously presenting, were delivered without difficulty, a further six being delivered manually in quick succession. The piglets were in no way affected by the thiopentone and the sow afterwards delivered naturally a further three pigs, all being alive and well. The sow appeared normal and was eating well by 9.30 a.m. the same day.

A word of warning may not be out of place when using thiopentone sodium intraperitoneally when the intravenous route is not possible. The dose is calculated on the same basis and a 5 per cent. solution is again used; yet in one case a pig remained anaesthetised for 12 hours and then collapsed with respiratory failure, while another was hardly affected by the appropriate dose and anaesthesia had to be completed with ether. I therefore consider this route to be irregular in action, and unreliable.

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gland, membrana nictitans, conjunctiva, upper eyelid, skin of the temple and forehead, the horn core and the septum nasi; and also supplies the sensory root of the ciliary ganglion which, amongst other functions, receives twigs from the iris and ciliary bodies.

The maxillary division and its branches receive impulses from the lower eyelid, skin of the anterior part of the cheek, upper lip and nostril, the mucous membrane of much of the nasal chambers; and the hard palate, soft palate, upper gums, and upper molar teeth.

Finally the mandibular division, part sensory and part motor, supplies the masseter, temporalis, pterygoideus medialis, mylohyoid, and part of the digastricus muscles; the skin of the cheek and front part of the mandibular space; the lower lip, chin, mucous membrane of much of the tongue, cheek, floor of mouth and the lower gums and teeth; the fauces and buccal glands, parotid glands, and parts of the external ear; the skin of the external auditory canal, and the membrana tympani.

It was seen that a lesion capable of producing all the symptoms in this case must be in a position to affect all parts of the nerve, and must therefore be within the cranium at a point where it can involve both the sensory and motor roots of the nerve.

Diagnosis of an intra-cranial lesion of the fifth nerve was made.

The cow was destroyed with intravenous chloral hydrate and the brain dissected out from the skull. An abscess containing about 15 c.c. of thick, creamy white pus was found in the subdural layers at the undersurface of the brain adjacent to the left lateral aspect of the pons, and the root of the fifth nerve. Examination of the pus revealed the presence of *Corynebacterium pyogenes*.

Discussion

This case is reported for two reasons. In the first place, whereas the writer has seen two cases of paralysis of the seventh cranial nerve in the bovine species, he believes that paralysis of the fifth nerve is very rare. Secondly, the case afforded an excellent example of the accurate correlation of cause and effect, which one is always attempting, so often unsuccessfully, to attain in clinical practice.

It is interesting to surmise as to the reason for the development of an abscess at this point. A very careful *post-mortem* search failed to reveal the presence of any other lesion, pyogenic or otherwise, in any part of the animal. It would appear possible that originally a small haemorrhage had occurred, resulting in the formation of a haematoma, which had later become infected.

Summary

A case of paralysis of the fifth cranial nerve due to an intra-cranial abscess, is reported in a dairy cow.

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ERRATUM

Our attention has been drawn to certain errors in printing the illustrations to the paper "A Flap Operation for the Surgical Correction of Chronic Otitis in the Dog and Cat," by Dr. E. Wynn Jones. The paper was published on February 26th. Fig. 4 should appear above the legend accompanying Fig. 1 and vice versa. The letters a and b referred to in the text were omitted from the appropriate diagrams, one of which (Fig. 1) should have been printed with the surgical instruments at the top. We express our apologies to the author.

News and Comment

THE QUEEN VISITS THE ANIMAL HEALTH TRUST

As briefly announced in our columns last week, the Queen honoured the Animal Health Trust on April 28th by paying an informal visit to its Equine Research Station at Balaton Lodge, Newmarket.

During a tour of inspection lasting for more than an hour, Her Majesty conversed with the scientific officers in charge of the various departments, taking a close interest in their work. In passing through the laboratories she examined a large number of X-ray photographs, *post-mortem* specimens, and pathological exhibits of rare conditions encountered during the station's work.

Among the clinical cases the Queen saw a foal which had suffered from haemolitic disease, and had been transfused twice with blood from horse donors. It was now almost fully recovered. Another case in which she was interested was that of a young foal which had broken a fore canon bone. This had been set and strengthened with a special splint made from a new alloy. A number of other horses which had been operated upon for various conditions claimed Her Majesty's attention also.

SHIPMENT OF HORSES BY SEA

Among the recommendations made in a report on the shipment of horses from Ireland to Antwerp, issued recently by Our Dumb Friends' League, was that a veterinary surgeon should be employed to advise the companies concerned in this traffic. It was further recommended that a veterinary investigation should be made into the causes of death of horses at sea.

The inquiry which led up to this report was made by an official of the League, and by Mr. L. W. Mahaffey, a senior research officer of the equine research station of the Animal Health Trust. In their view the inspection of horses for export, as carried out at the port of Dublin, appeared to be strict and well conducted, and the abattoir at Antwerp appeared to be well managed.

According to a Press report the Irish Department of Agriculture has stated its willingness to undertake a veterinary investigation into the causes of death among horses during transport by sea.

This photograph shows the Queen in the courtyard of Balaton Lodge. Left to right are: Captain Charles Moore, Manager of Her Majesty's thoroughbred stud, Lord Porchester, Colonel Barnett, Secretary of the Trust's Equine Research Station, and the Princess Royal standing beside Dr. W. R. Wooldridge. The Queen is standing next to Sir Humphrey de Trafford and Mr. William C. Miller, Director of the Station.

THE R.S.I. HEALTH CONGRESS

The recent Royal Sanitary Institute Health Congress at Bournemouth proved to be the largest in its history, over 2,000 members and delegates being listed as attending. It is greatly to be regretted, however, that there were only about 20 veterinary surgeons participating in an event which provided a valuable and indeed almost unique opportunity for presenting the veterinary viewpoint on matters of great interest to our colleagues in the medical profession, and to the public at large. It is undoubtedly unfortunate that greater interest is not taken in the Congress by members of our profession both official and unofficial and, indeed, if the section is not to be allowed to die of inanition it is essential that steps be taken by its organisers at future Congresses to secure more widespread publicity for the Congress in general and for its veterinary section in particular.

Quite a fair sized audience consisting mainly of sanitary inspectors and other local authority representatives with only a very small sprinkling of veterinary surgeons heard Dr. A. W. Stableforth give his Presidential Address to the Veterinary Hygiene Section of the Congress at Bournemouth on Tuesday, April 26th. Dr. Stableforth took as his subject "The Contribution of Veterinary Medicine to Human Health" and gave an interesting review of the contribution which the veterinary surgeon can make to the health of man by helping to increase world food supplies, by eradicating or controlling animal diseases which affect man, and by arousing interest in disease control generally. As befitted his rôle as veterinary representative of FAO at the Congress, Dr. Stableforth outlined the veterinary public health contributions of that body and of the allied organisations for dealing with world health problems, and surveyed the present position with regard to zoonoses in this country ending up with a plea for co-operation from all concerned with both human and animal health and with livestock in an endeavour to improve the production of food and the health of man and beast.

The first paper in the section, entitled "A Review of Some Factors Influencing the *Post-mortem* Changes in Meat" was given by Mr. J. M. Olivant, M.R.C.V.S., D.V.S.M., lecturer in applied veterinary pathology in the University of Liverpool. Mr. Olivant presented a comprehensive review of the literature on the main factors influencing *post-mortem* changes in meat and their significance for meat quality, and emphasised the need for further investigation of the various aspects dealt with. The paper, which emphasised the importance of methods of handling animals in the two to three days prior to slaughter, provided an interesting framework for discussion by a whole variety of interested parties but the contributions came almost entirely from the veterinary members of the audience. The discussion was introduced by Mr. G. S. Ferguson, B.SC., M.R.C.V.S., D.V.S.M., Senior Lecturer in Meat and Milk Hygiene in the Edinburgh Veterinary School, who emphasised that this excellent review was long overdue, and posed an interesting series of questions on the various points in Mr. Olivant's paper. Mr. Ferguson's opening was followed by contributions by Mr. E. F. Lewis, M.R.C.V.S., of the Royal Veterinary College, Mr. C. G. Allan, M.R.C.V.S., D.V.S.M., of Birmingham and Mr. D. W. Bottom, Chief Sanitary Inspector for Cambridge.

The second half of the afternoon's programme was introduced by Dr. S. J. Edwards, Senior Principal Scientific Officer of the Agricultural Research Council Field Station at Compton, with a paper on "Mastitis in the Dairy Cow, its Agricultural and Public Health Importance." Dr. Edwards summarised existing knowledge with regard to the causation and treatment of various types of mastitis and also their economic and public health effects. He also reviewed the present position with regard to the control and eradication of the various types mentioned. The main points in the paper were illustrated by an interesting variety of lantern slides dealing pictorially with various points raised by Dr. Edwards in the published text and emphasising his view that "present-day legislation permits an improved system of control and methods of production so that the chances of contamination of milk with organisms pathogenic to man should be greatly diminished." Dr. Edwards's paper was opened at short notice by Mr. H. F. Hebeler, M.R.C.V.S., who dealt with the problem from the viewpoint of the general veterinary practitioner, and other contributors to the discussion were Mr. J. B. White, M.R.C.V.S., of Salisbury, and Councillor J. Wilson, Chairman of the Health Committee of Tamworth Rural District Council.

In spite of the relatively small number of participants the discussion on both papers reached a high standard which must have been gratifying to the authors of the papers who had obviously been at considerable pains to produce contributions suited for such a varied and yet specialised type of audience.

CASE AGAINST VETERINARY SURGEON WITHDRAWN

Judgment for the defendant was entered in the Queen's Bench Division of the High Court recently when Mr. John Cormore Brady, a trainer and breeder of hunters, sued Mr. Robert Tindle, a member of the profession, for alleged negligence.

Mr. Henderson, for the plaintiff, said that when taking part in the Olympic trials at Badminton in 1953, "Cinders" fell at a jump. The defendant, one of the honorary veterinary surgeons for the British Horse Society, gave the horse an injection. The horse became ill and died five days later from gas gangrene. It was alleged that the defendant negligently administered the injection and introduced bacteria into the horse's shoulder which resulted in an infection that led to the horse's death.

The horse was a promising one. It was a five-year-old in 1953 and the youngest horse at Badminton in that year. If it was in the Badminton class it had a great future in front of it. There was a great market for horses which qualified at Badminton, and if it had finished the course it would have been

worth about £1,000. As an ordinary hunter it was worth £200 to £300.

The plaintiff gave evidence and evidence was also given by the rider of the horse and the groom.

Mr. Llewellyn Constance, veterinary surgeon, of Malmesbury, said in evidence that he was called to see "Cinders" on April 25th, and attended the horse until it died on April 28th.

Mr. Fearnley-Whittingstall, Q.C., cross-examining: If you had seen this horse jump and fall and came to the conclusion it was utterly exhausted and might die, would you have given it an injection?—Yes.

Exactly as Major Tindle did?—Yes.

Mr. James Cosgrove, of Parnell Street, Dublin, a member of the Royal College of Veterinary Surgeons, and a member of the Veterinary Council of Ireland, gave evidence.

In the course of cross-examination by Mr. Fearnley-Whittingstall the witness admitted that the infection could be introduced by a needle being pushed through the site, even though the needle was sterilised and a disinfectant was used. He agreed that he would not quarrel with the procedure of a sterilised needle and the use of a disinfectant. He would be quite satisfied with that.

Counsel: Are you saying that a veterinary surgeon, exercising ordinary prudence, can by an injection unhappily introduce the infection?—I am, yes.

Mr. Justice Pilcher then asked counsel whether in view of the witness's last answer they would like to adjourn to consider the matter.

After a short adjournment Mr. Henderson, addressing his Lordship, said that in view of the last answer given by the witness he had felt bound to advise his client that he could not possibly succeed because the plaintiff's case was that the result showed that there must have been a lack of reasonable care. The plaintiff, said counsel, had accepted his advice and would submit to judgment, and he withdrew all allegations of negligence against the defendant. In submitting to judgment it had been agreed that costs would be limited to £200.

Mr. Justice Pilcher entered judgment for the defendant and made an order for a sum in court to be paid out to the defendant.

ANNUAL DINNER OF THE R.C.V.S.

Members of the profession are reminded that they, their wives and their friends will be welcome to attend the annual dinner of the Royal College of Veterinary Surgeons to be held at the Dorchester Hotel, Park Lane, on Thursday, May 12th, at 7 p.m. for 7.30 p.m. Tickets are still available and may be obtained from the College at 9, Red Lion Square, London, W.C.1. Special arrangements can be made by the Registrar to seat friends together where this is desired.

Over 30 distinguished guests connected with many interests which impinge on the veterinary profession have accepted invitations. Apart from the presence of members of the United Kingdom Government, the almost unique position of the Royal College in respect of the Republic of Ireland is recognised by the presence of the Minister of Agriculture for the Republic who is coming specially from Dublin for the dinner. The Irish Ambassador will be present also.

The toast of the Royal College, and of Animal Health will be proposed by Viscount Waverley, P.C., G.C.B., G.C.S.I., G.C.I.E., F.R.S., who, as Sir John Anderson, will be remembered as Lord President of the Council and Chancellor of the Exchequer. More recently he has been of great assistance to science and to the veterinary profession in the Parliamentary and Scientific Committee.

The Guests will be proposed by Mr. James Ritchie, Chief Veterinary Officer of the Ministry of Agriculture and Fisheries who, formerly an elected member of College Council, is now a member nominated by the Privy Council. Replying to the toast will be, it is hoped, Mr. James Dillon, the Minister of Agriculture for the Republic of Ireland, a noted orator.

During the course of the dinner there will be a short ceremony in which the President will bestow the Diploma of Honorary Associate on the Duke of Norfolk, K.G., P.C., G.C.V.O., who will be amongst the guests.

EAST MIDLANDS DIVISION ANNUAL DINNER AND DANCE

The fourth Annual Dinner and Dance of the East Midlands Division was held on March 24th, at the George Hotel, Nottingham. The guests included the President of the B.V.A., Professor A. Robertson with Mrs. Robertson, Mr. W. S. Gibson, East Midlands Provincial Director of the N.A.A.S., and Mr. E. Wilkinson, President-elect of the B.V.A. and President of the Midland Counties Division, with Mrs. Wilkinson. Mr. B. L. Hallward, Vice-Chancellor of Nottingham University, was unfortunately prevented once again from being present owing to illness.

Members and their guests were received by the President of the Division, Mr. N. McG. Black and Mrs. Black together with Professor and Mrs. Robertson, after which the two presidents and their ladies were escorted in to dinner by the toastmaster amid applause. After dinner a welcome to the guests was proposed by Mr. D. L. Hughes, and in the absence of the Vice-Chancellor of the University the response was made at very short notice by Mr. E. Wilkinson. In an amusing and witty address, proposing the toast of the East Midlands Division, Professor Robertson referred to some events in its earlier history and congratulated the Division on the election of Mr. Wilkinson to the office of President-elect of the B.V.A. In his reply Mr. Black reminded the company that during the present year, in addition to providing the next B.V.A. president, the Division had also supplied presidents to each of the three neighbouring Divisions of the Association.

Dancing continued until 1 a.m. and a raffle, for which some excellent prizes were offered, realised over £18 in aid of the Victoria Veterinary Benevolent Fund.

HOLIDAY EXCHANGE

There appear to be a number of French veterinary surgeons whose sons and daughters would like to spend part of their summer holidays with British veterinary surgeons and, in return, would like to entertain the British children in their homes.

The following is a list of places where there is a French veterinary family who would like to make this exchange, and any member of the profession who is interested is asked to write as soon as possible to the General Secretary of the B.V.A. for further particulars.

Loiret (Châteaux de la Loire Region): Boy of 13.

Drôme Region: Boy of 15 would like to visit England about July 10th and take back an English boy in August.

Yonne Region: Boy of 15.

Gers Region: Two boys of 13, separate families.

Sarthe Region: Boy of 17 would like either to visit *au pair* or receive an English boy in exchange.

Vienne Region: Boy of 14. His mother would bring him and would return to France with an English boy.

Landes Region: A young man of 20, who has just finished a year specialising in mathematics. He would like to stay as a paying guest, but would take another boy to his home in exchange if desired. He would like to come to England from about July 15th to August 15th.

Vienne (Poitiers): Girl of 16.

Seine-et-Marne: Boy of 17 au pair.

PERSONAL

Births

BOUNDY.—On April 15th, 1955, to Catherine, wife of Terry Boundy, B.V.SC., M.R.C.V.S., of The Bungalow, Montgomery, North Wales, a daughter.

CONDY.—On April 15th, 1955, to Joan, wife of John B. Condy, M.R.C.V.S., at the Lady Chancellor, Salisbury, S. Rhodesia, a daughter.

CRUICKSHANKS.—On April 24th, to Joyce (*née* Fielding), wife of John Cruickshanks, B.SC., M.R.C.V.S., Blandford, Dorset, a son.

WYLLIE.—On March 30th, 1955, to Audrey (*née* Sutherland), M.R.C.V.S., wife of D. C. Wyllie, a daughter, Patricia Janet, a sister for Gillian.

S.V.R. OBITUARY

SMITH, Christina Lescle (Mrs.), of 5, Cairnside, East Herrington, Sunderland. Admitted to the Supplementary Veterinary Register November 24th, 1950. Died April 20th, 1955.

MR. RICHARD BOLTON

We record with regret the death of Mr. Richard Bolton, who died on April 28th. As managing director of Agricultural Food Products Ltd. he was known to, and much esteemed by, many members of the profession and by agriculturalists everywhere.

During recent years he strove for a closer relationship between veterinary surgeons and the animal foodstuffs manufacturers.

Mr. Bolton was a member of the Executive Committee of the Animal Health Trust, to whose work he gave much thought and time.

COMING EVENTS

May

11th (Wed.). Evening Meeting of the Eastern Counties Division, B.V.A., at Ipswich.

Meeting of the Royal Veterinary College Medical Association at Streatley House, Berks, 2 p.m.

General Meeting of the Midland Counties Division, B.V.A., at the Regent Hotel, Leamington Spa, 2.30 p.m.

Joint Meeting of the Eastern Counties Division, B.V.A., and the Ipswich and District Clinical Society at the Great White Horse Hotel, Ipswich, 8.45 p.m.

12th (Thurs.). R.C.V.S. Dinner, Dorchester Hotel.

Annual General Meeting of the Essex Division, B.V.A., at the Essex Institute of Agriculture, Writtle, Essex, 7.30 p.m.

General Meeting of the East Midlands Division, B.V.A., at the School of Agriculture, Sutton Bonington, 2.15 p.m.

13th (Fri.). Annual Dinner-Dance of the Chiron Club in the Royal Hotel, Bristol, 7 p.m.

General Meeting of the Yorkshire Division, B.V.A., at the British Oil and Cake Mills, Ltd., Selby, 12 noon.

14th (Sat.). Annual Sports Day of the Royal Veterinary College to be held at Streatley, 2 p.m.

18th (Wed.). Meeting of the R.A.V.C. Division, B.V.A., at the Equine Research Station, The Animal Health Trust, Balaton Lodge, Newmarket, 12 noon.

Annual General Meeting of the Veterinary Benevolent and Mutual Defence Society at the Midland Hotel, Manchester, 2.30 p.m.

Meeting of the Southern Counties Division, B.V.A., at the Polygon Hotel, Southampton, 7 p.m.

24th (Tues.). Annual General Meeting of the Society of Practising Veterinary Surgeons at the Royal Station Hotel, York, 2.15 p.m.

25th (Wed.). Meeting of the Section of Comparative Medicine, Royal Society of Medicine, at the Society's house, 5 p.m.

June

1st (Wed.). 112th Annual General Meeting of the Royal College of Veterinary Surgeons at 10, Red Lion Square, London, W.C.1, 12 noon.

Annual General Meeting of the Victoria Veterinary Benevolent Fund, at the Royal College of Veterinary Surgeons, 10, Red Lion Square, London, W.C.1, following the A.G.M. of the Royal College of Veterinary Surgeons (called for 12 noon).

9th (Thurs.). Meeting of the Western Counties Division, B.V.A., at the Victoria Hotel, Newquay, 2.30 p.m.

10th (Fri.). Annual Dinner of the R.A.V.C. Officers' Club, at Grosvenor House, Park Lane, London.

16th (Thurs.). Annual General Meeting of the Herts and Beds Division, B.V.A., at 70, Holywell Hill, St. Albans, 7.30 p.m.

July

6th, 7th and 8th (Wed., Thurs., and Fri.). B.V.A. Committee and Council Meetings in London.

September

4th to 10th. 73rd Annual General Meeting and Congress of the British Veterinary Association at Belfast.

R.C.V.S. EXAMINATIONS

May 9th, Monday.—Pharmacology, etc., Examination (Revised Syllabus). Oral and Practicals (London and Dublin).

May 12th, Thursday.—Animal Management Examination at Dublin.

May 12th, Thursday.—Entries for D.V.S.M., Examination due.

June 9th, Thursday.—D.V.S.M., Written Examinations commence at Edinburgh.

June 13th, Monday.—D.V.S.M. Oral and Practicals commence.

June 23rd, Thursday.—M.R.C.V.S. Written Examinations.

June 24th, Friday.—M.R.C.V.S. Written Examinations.

June 27th, Monday.—M.R.C.V.S., Practical and Orals commence (Panels "A" and "B").

ADDRESSES OF DISEASE-INFECTED PREMISES

The list given below indicates, first, the county in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.

Anthrax

Denbighs. Old Hall, Pickhill, Wrexham (Apr. 26).

Dorset. Beechleys Cottage, Wheelers Lane, Knighton, Canford Magna (Apr. 25).

Hants. Bournefield, Swanwick Lane, Swanwick, Fareham (Apr. 25).

Norfolk. Southery Road Farm, Feltwell, Thetford (Apr. 26).

Northampton. Castle Ashby Meadow, Station Road, Earls Barton (Apr. 27).

Notts. Brunts Farm, School Lane, Claypole, Newark (Apr. 25); Cockliffe Hill Farm, Arnold (Apr. 27).

Renfrew. Migdale Farm, Kilmacolm (Apr. 28).

Roxburgh. New Close, Hundalee Farm, Jedburgh (Apr. 26).

Wilts. Manor Farm, Easton Royal, Pewsey, Marlborough (Apr. 27).

Yorks. Abbey Farm, Marton Lordship, Stillington (Apr. 25); Glebe Farm, Ampleforth (Apr. 27).

Fowl Pest

Bucks. Highwaymans Farm, White Hill, Woolburn Moor, High Wycombe (Apr. 28).

Ches. Manley House, Manley, Warrington; Strathallan, Mickle Trafford, Chester (Apr. 27).

Essex. 300, Eastwood Road, Rayleigh (Apr. 27).

Norfolk. Chalk Hall Farm, Hockwold, Thetford (Apr. 26).

Suffolk. Stonicott Farm, Leavenheath, Colchester (Apr. 28).

Swine Fever

Bute. The Corries, Corriecravie, Blackwaterfoot, Isle of Arran (Apr. 27).

Ches. Manor Farm, St. Bridgets Lane, West Kirby, Wirral; The Willey Farm, Bickley, Malpas (Apr. 27); Gascot Farm, Church Lane, Neston, Wirral (May 2).

Essex. North End Place, Felstead, Dunmow (Apr. 29).

Lancs. Abraham Heights Farm, Lancaster (Apr. 30); Crabtree Farm, St. Michaels on Wyre, Preston (May 2).

Leics. Forest Fields Farm, Belton, Loughborough (Apr. 28).

Monmouth. Pentre Cottage, Cwbran, Newport (Apr. 27).

Norfolk. Royal Hotel, Snettisham, King's Lynn; Sand Hole, Low Road, Thurlton, Loddon; Lower & Wicken Farms, Tattersett, King's Lynn (Apr. 26); The Bungalow, Gonville Terrace, Terrington Street, Clement, King's Lynn (Apr. 27); Glebe Farm, Runham, Gt. Yarmouth; Walnut Farm, Lynn Road, Tilney St. Lawrence, King's Lynn (May 2).

Northants. Banbury Road, Brackley (Apr. 29).

Salop. Hillside, Nash, Ludlow (Apr. 26); Manor Farm, Preston Gubbals, Shrewsbury (Apr. 28); Bentley Ford Farm, Longnor, Shrewsbury (Apr. 29); Lower Lee, West Felton, Oswestry; Gledrid, Chirk, Wrexham (May 2).

Staffs. Fairy Fields Farm, Allens Lane, Pelsall, Walsall (Apr. 26); 19, Bradley Farm, Uttoxeter (May 2).

Suffolk. Elmer Farm, Finningham, Stowmarket (Apr. 26).

Warwicks. Lower Shenley Farm, Shenley Lane, Northfield, Birmingham, 31 (Apr. 26).

Worcs. Lodge Farm, Redditch (Apr. 30).

Yorks. Home Farm, Cundall, Boroughbridge (Apr. 26); Parkhill Lane Piggeries, Sheffield; St. John's Allotment, Normanton (Apr. 28); Windyridge, Little Fenton, South Milford (Apr. 29).

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the B.V.A.

TRICKING THE DOG

Sir,—I have recently purchased a packet of worm capsules made by a firm of excellent repute. The instructions for use include advice on administration. Two or three morsels of meat should be thrown to the dog, and then a similar morsel in which a capsule has been wrapped. It is said that the dog will swallow both meat and capsule without further

trouble. I have frequently read similar advice in books on the care of dogs as well as in articles in the lay Press.

In the whole course of my long and sinful life I have never succeeded in tricking a dog in this manner. I have now abandoned the attempt, as the dog has invariably detected the medicated morsel and rejected it, no matter how much "pre-baiting" has been used. I would be interested to know if any of your readers with greater cynological experience than mine have been more successful.

Yours faithfully,

R. MACGREGOR,

Kildrummie,
Betchworth,
Surrey.

April 27th, 1955.

PIG OEDEMA

Sir,—In reply to Captain G. C. Lancaster, I wish to make it quite clear that it was not my intention to enter into a controversy on the possible causes of pig oedema, but rather to place on record for the consideration of others, my personal observations on a complex and difficult problem.

Whether or not the composition of pig meals in this country has altered during the last year matters little, for the disease is ubiquitous and to my personal knowledge is common in parts of Scandinavia where manufactured pig foods are seldom used. Nevertheless, Captain Lancaster is probably correct in his assumption that there has been no major alteration in the composition of pig meals manufactured in this country although each manufacturer continues to have his own individual idiosyncrasies.

If ultimately it is shown that the disease is of an infectious nature but that onset of clinical symptoms is activated by certain environmental factors, I would then place fairly high on the list the danger of feeding for liveweight gain when this is likely to be arrested suddenly by change in management.

Yours faithfully,

A. L. WALTHER,

Crosfields & Calthrop Ltd.,
Vauxhall Road,
Liverpool, 5.

April 27th, 1955.

THE REGISTER OF VETERINARY SURGEONS

Sir,—On March 10th, 1955, the Registrar of the Royal College of Veterinary Surgeons addressed a letter to certain members of the profession saying that if they did not pay a fee of one or four guineas, their names would be removed from the Register and that they would not be allowed to practise or to use the letters M.R.C.V.S. The latter means that the Council intend to take away the diplomas of these veterinarians at any rate until they pay that fee. Have the Council power to do this?

A student goes to college, passes his examinations and takes his diploma. He is then a member of the profession for life, and presumably is entitled to retain his qualification whether he has his name on the Register or not. Would the R.C.S. take away a man's degree because his name was not on that Register? Does our own Council, furthermore, intend to take the university degree of B.V.Sc. away from a man because his name is not on the Register R.C.V.S.?

Perhaps the Registrar would enlighten us on these subjects.

Yours faithfully,

ARNOLD SPICER,

Crabwood,
Oxted,

April 27th, 1955.

We regret that, owing to pressure on our space, several interesting letters are held over until next week.

ADVERTISERS' ANNOUNCEMENTS

Glaxo Laboratories announce that a veterinary pack of Dimycin solution, 10 grammes in 30 c.c., is now available. This preparation provides a combination of streptomycin and dihydrostreptomycin in a handy and economical pack, particularly for large-animal practice.

Veterinary Vitamin B_{12}, 10 c.c. is now discontinued.

Burroughs Wellcome & Co. announce the introduction of "Wellcome" brand Improved Blackleg Vaccine. Prepared by new methods, this aluminium hydroxide-adsorbed vaccine stimulates a better and more durable immunity in the injected animal in doses less than half those required with the other preparation. The dose is 2 c.c. for cattle, and 1 c.c. for sheep.

"Wellcome" brand Improved Blackleg Vaccine is issued in containers of 10 c.c., 20 c.c., and 50 c.c.

DISEASES OF ANIMALS ACT, 1950—GREAT BRITAIN

Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period		Anthrax	Atrophic Rhinitis	Foot-and-mouth	Fowl Pest	Sheep Scab	Swine Fever
16th to 31st March, 1955		42	—	—	18	—	71
Corresponding period in	1954	11	—	1	43	—	53
	1953	44	—	1	12	—	177
	1952	22	—	27	10	—	69
1st January to 31st March, 1955		267	—	6	166	—	312
Corresponding period in	1954	71	—	11	411	—	335
	1953	294	—	22	183	—	563
	1952	119	—	56	65	1	275

TUBERCULOSIS (ATTESTED HERDS) SCHEMES

The number of Attested Herds, *i.e.*, herds officially certified as free from Tuberculosis as at 31st March, 1955, was as follows :—

ENGLAND	WALES	SCOTLAND	TOTAL (GREAT BRITAIN)
70,851	32,705	33,819	137,375